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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,977	02/19/2004	Lindsay Grant	02EDI31052631	1026
27975	7590	08/24/2005	EXAMINER	
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			SOWARD, IDA M	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,977

Applicant(s)

GRANT, LINDSAY

Examiner

Ida M. Soward

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2-19-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the preliminary amendment filed February 19, 2004.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **112** in Figure 1. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: “, **respectively**” should have been inserted after **102, 104** on page 5, line, paragraph [0022].

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17-21, 25, 29 and 30-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukaya et al. (4,724,323).

In regard to claims 17 and 29, Fukaya et al. teach a semiconductor image sensor (Figure 29) comprising: at least one pixel 2910 comprising a photosensing portion (column 14, lines 61-67) and a coating 2906 there on (Figures 29-30, columns 5-6 and 14, lines 64-68, 1-25 and 49-67, respectively).

In regard to claim 25, Fukaya et al. teach a semiconductor image sensor (Figure 29) comprising: a substrate 2901; at least one pixel 2910 on the substrate 2901 and comprising a photosensing portion (column 14, lines 61-67) and a coating 2906 (Figures 29-30, columns 5-6 and 14, lines 64-68, 1-25 and 49-67, respectively).

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In regard claims 17-21 & 30-33 and to the limitation of a dual function, claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function, *In re Danly*, 263, F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

In regard to claim 25 concerning the coating functioning as an anti-reflective surface and preventing the formation of silicide on the photosensing portion, claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function, *In re Danly*, 263, F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 22, 26 and 34-35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukaya et al. (4,724,323) as applied to claims 17-21, 25, 29 and 30-33 above, and further in view of Kurusu et al. (4,691,240).

Fukaya et al. teach all mentioned in the rejection above.

However, Fukaya et al. fail to teach the photosensing part comprising a photo diode.

Kurusu et al. teach a photosensing part comprising a photo diode (column 3, lines 22-25).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor image sensor structure as taught by Fukaya et al. with the semiconductor image sensor having a photosensing part comprising a photo diode as taught by Kurusu et al. to correct input signals (column 1, lines 7-13).

In regard to claim 34, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). (See MPEP § 2113)

Claims 23-24, 27-28 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukaya et al. (4,724,323) and Kurusu et al. (4,691,240) as applied to claims 22, 26 and 34-35 above, and further in view of Guidash (US 2003/0062561 A1).

Fukaya et al. and Kurusu et al. teach all mentioned in the rejection above.

However, Fukaya et al. and Kurusu et al. fail to teach a photo-diode comprising a pinned photo-diode or a partially pinned photo-diode.

Guidash teaches a photo-diode 12 comprising a pinned photo-diode or a partially pinned photo-diode (Figures 3 and 5, page 2, paragraphs [0023] and [0025]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor image sensor structure as taught by Fukaya et al. and the semiconductor image sensor having a photosensing part comprising a photo diode as taught by Kurusu et al. with the semiconductor image sensor having a photo-diode comprising a pinned photo-diode or a partially pinned photo-diode as taught by Guidash to reduce the number of processing steps (page 3, paragraph [0036]).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to semiconductor image sensors:

Clevenger et al. (US 2003/0025138 A1)	Dries et al. (US 6,555,890 B2)
He et al. (US 2004/0026724 A1)	Liang et al. (5,781,233)
Nishizawa et al. (4,450,466)	Pan (US 6,351,002 B1)
Rhodes (US 2001/0022371 A1)	Saito et al. (5,589,705)
Saito (5,923,071)	Saito (6,100,570)

Watanabe (US 2002/0179907 A1)


Yang et al. (US 6,180,969 B1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M. Soward whose telephone number is 571-272-1845. The examiner can normally be reached on Monday - Thursday 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IMS
August 16, 2005


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